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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RAMSEY, KENNETH J

ART UNIT PAPER NUMBER

2879

DATE MAILED: 12/31/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/386,972

Applicant(s)

Moradi et al

Examiner

Kenneth J. Ramsey

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Prior Art Rejections

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-27 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Konuma in view of Itoh et al and Watkins for the reasons stated in the last Office action. While Itoh et al, column 2, lines 31-43, states that simply operating the display device while evacuating fails to sufficiently discharge gas from the display device in order to sufficiently improve the life of the display, the patent fails to disclose all of the process parameters of the prior art method that fails. Konuma and Watkins, however, teach that a sufficient evacuation of the display may be achieved if the evacuation is to 10^{-8} or better. In fact, Konuma clearly anticipates claim 1 since figure 7 and column 6, line 61 to column 7, line 59. describes a step of operating the field emission display for 20 seconds evacuating a flat panel display device to 10^{-9} . Clearly the evacuating does remove carbon deposits and other gases from the emitters though this is not discussed therein. It is well known in the art that operating the field emission device serves to discharge sorbed gases from the emitter, which is why Konuma speaks of a "cleaning" function. Although the process time in Konuma is much shorter than that claimed for instance in claim 3, (twenty minutes) the patent to Watkins which does not include a step of operating the device to outgass the emitters teaches a step of "soaking" the

device in a vacuum of 10^{-8} for two hours to remove the gases. It is sufficient that the references do suggest the combination of driving the emitters while evacuating to a vacuum of 10^{-6} torr or better for a sufficient time to outgas the device. To hold otherwise would be to give an undue weight to an individual teaching of the references rather than to consider the reference teachings as a whole. As to claim 3 and similar claims, the amount of time for which the outgassing step should be carried out varies according to the specifics of the involved manufacturing process and the desired results and would have been determined by standard tests that are obvious and routine in the art. As to claims 6-8, either mode of evacuation and pinching the evacuating tube is well known in the art. As to claim 9, since manufacturing process are well known to cause contamination of the work (see Official notice taken of this fact in the last Office action), it is obvious to clean the parts prior to assembly.

Response to Arguments of Applicant(s)

It is noted that Konuma discloses the use of his process for evacuating a flat display panel, as well as for evacuating a CRT. See column 7, lines 55-59. In either case the device is a field emission device since microfield emitters are used as the cathodes. See e.g. column 4, lines 65-67. Also, although less than a normal operating current is used in Konuma during the period of ionic cleaning to protect the cathodes from damage due to ion collisions, at the higher vacuum levels taught in Konuma, the problem of damage from ion bombardment hardly exists. Regardless, the device is "operated" as per the claims. Even if applicant were to claim operating the device at the usual potentials, the references suggest as much since the step of operating at

standard potential is well known and obvious as shown by Itoh et al. The obvious and well known function of operating the device in a high vacuum mode is to heat the device sufficiently to outgas impurities. See Itoh et al column 2, lines 31-39 and column 3, lines 6-10.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Directions for Responses

Any formal response to this final action should be directed to examiner Kenneth Ramsey, Art Unit 2879, and either

faxed to: 703-872-9319; or mailed to: Box AF
Assistant Commissioner For Patents
Washington, D.C. 20231

Technical inquiries concerning this communication should be directed to Kenneth J. Ramsey, (703) 308-2324 (voice), (703) 746-4832 (fax).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


KENNETH J. RAMSEY
PRIMARY EXAMINER